PureLink
Digital Extender®

OBC Series

Modular Fiber Optic DVI Extension System

Owner's Manual

Dtrovision LLC
9A Bergen Turnpike
Little Ferry, NJ 07643
USA
Tel: +1.201.488.3232
Fax: +1.201.621.6118
Email: support@dtrovision.com
www.dtrovision.com

For order support, please contact your local dealer.
For technical support, please contact us at support@dtrovision.com

Welcome!

Congratulations on your purchase of model OBC, the fiber optical DVI extension system. This manual contains information that will assist you in installation and operation of the product.

Product Description

The OBC modules offers 100 meters extension of high-resolution digital graphic data over fiber, directly connected between digital video source and displays. OBC receiver module is to be connected to the video display using short DVI cable(Not included). OBC transmitter module is to be connected to the video source using short DVI cable(Not included). OBC transmitter and receiver are connected with 4 LC patch cord fiber bundled cable which enables to transmit 4 channels (R,G,B,Clk) of graphic data. The DVI Digital Display Channel (DDC2B) interface is connected with bundled copper cable(DDC cable) terminated in RJ-45C connectors.

Shipping Group of **OBC Fiber Optical DVI Extension Modules**

- **Tx and Rx boxes:** One (1) Transmitter (Tx) Box and One (1) Receiver (Rx) Box.
- **Option: 4 LC Patch Cord fiber bundled cable (Multimode glass fiber)** – Sold separately starting from 33ft upto 330ft (33ft increments)
- **AC/DC power adapter:** One (1) +12V units
- **User Manual**

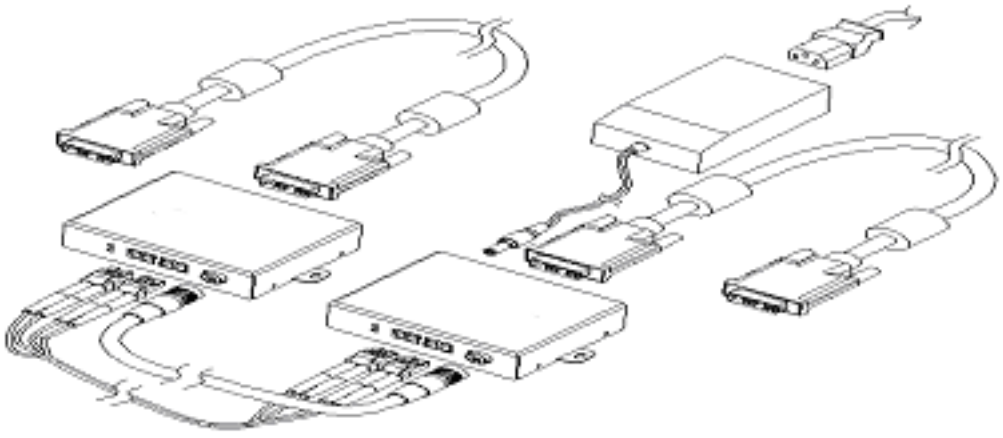

Figure 1 – Overall Connection Diagram

System Requirements for Setup

- **Hardware requirements**
  - You must have a video source with a DVI (Digital Visual Interface) output port. It should support the maximum graphic resolution feature of the display to be connected.
  - In case of using a computer, no special memory size, CPU speed and chipsets are required.
  - Proper initial trial of the entire platform with its application using a short length copper cable is recommended prior to installation of this system.
- **Software requirements**
  - No special needs, if the DVI graphic controller and display peripheral are operational with the platform's OS and application.
- **AC/DC Power Adapter Technical Advisory**

OBC modules are designed to supply sufficient power for both Tx and Rx modules via the DDC cable. Power input to either of the OBC modules should be sufficient.

Installation

Important: Please use the installation procedure below. Improper, or no operation may result if the start-up sequence is not correctly followed.

Step 1

Carefully unpack the contents of the shipping group.

Step 2

With system power turned **off**, connect the upstream Transmitter box to the DVI receptacle of a media receiver or a computer by one DVI copper cable in the shipping group.

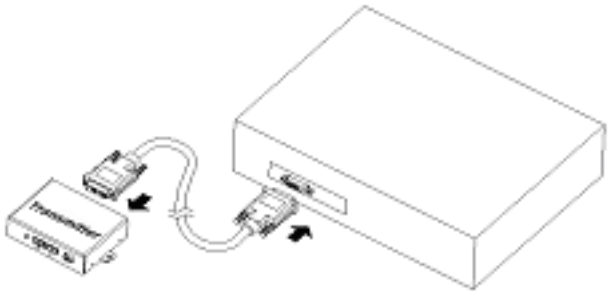

Figure 2 – Connection of DVI cable between Transmitter box and media receiver

Step 3

In the same way as above, connect the Receiver box into the DVI receptacle of the display by the other DVI copper cable.

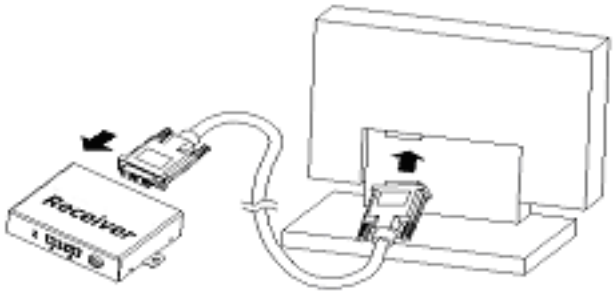

Figure 3 – Connection of DVI cable between Receiver box and display

Warning: Please DO NOT look directly into the LC receptacles of the Transmitter box, while it is powered on, although this product is regulated strictly enough to operate under the Laser Class I, classified by CDRH/FDA for eye safety.

Step 4

Remove the module dust covers and connect each duplex LC fiber cable one by one to each of 4 LC receptacles of the Transmitter and Receiver boxes, as shown in Fig. 4. Plug A to A and B to B. Carefully recheck polarities and ensure the duplex connectors are fully engaged.

* Please Check to make sure to plug in the LC cables in the order of A1, A2, B1 and B2 on both sides.

Step 5

Connect each RJ-45C of the DDC cable to each receptacle of the Transmitter and Receiver boxes.

Figure 4 – Connection of 2 duplex LC fiber cables

Step 6

Connect an AC/DC power adapter to either of the Transmitter and Receiver boxes depending on the availability of AC outlets.

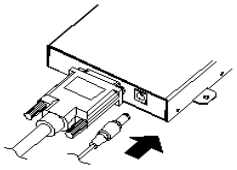

Figure 5 – Connection of AC/DC power adaptor

Step 7

Power on the video source(media receiver or computer) and display.

Tip 1: After initial installation as guided in the above, we recommend you to power On and Off while all connections are set and the Tx/Rx boxes are powered in.

Tip 2: Avoid “hot plugging” the Tx or Rx boxes as this is not recommended practice with live digital voltages.

Troubleshooting

The display displays only black screen.

- Check that all AC and DC plugs and jacks used by external power supplies (both PureLink and others) are firmly connected.
- Ensure that power bars are live.
- Ensure that the Tx and Rx boxes plug correctly to the media receiver or computer and display, respectively.
- Check if the media receiver or computer and display are powered on and properly booted.
- Re-boot up the system after reconnecting the optical system cable.

Screen is distorted or displays noises.

- Check if the graphic resolution is properly set. Go to the display properties and tap the settings. Ensure that the resolution sets less than UXGA (1,600x1,200) at 60Hz refresh ratio.
- Reset the system.
- Power down, disconnect and reconnect the optical system cable or DC power adaptors, and power up.

Maintenance

No special maintenance is required for the optical system cables and power supplies. Ensure that the cables and power modules are stored or used in a benign environment free from liquid or dirt contamination.

There are no user serviceable parts. Refer all service and repair issues to Dtrovision or its authorized distributor.

Technical Support and Service

For commercial or general product support, contact your reseller. For technical service, contact Dtrovision by email support@dtrovision.com

Product Specifications

OBC Fiber Optical DVI Extension Modules

- **Compliance with DVI standard:** supports DVI 1.0, using fiber-optic communication links and DDC2B.
- **Extension limit:** 100m (330feet) for UXGA (1,600x1,200) at 60Hz refresh (or, 1080p)
- **Graphic Transmission Bandwidth:** supports up to 1.65Gbps bandwidth per graphic channel at UXGA at 60Hz.
- **Fiber-optic Connection:** The transmitter and receiver boxes of OBC have 2 duplex LC receptacles connected to four 62.5/125μm or 50/125μm Multi-Mode glass fibers cables.
- **Mechanical specifications of Tx and Rx boxes**
  - **Dimensions:** 38mm / 19mm / 72mm (W/H/D)
  - **Weight:** 46.0 ± 1.5 gr for each of Tx and Rx.
- **Environmental Specifications**
  - Operating temperature: -10°C to 50°C
  - Storage temperature: - 30°C to 60°C

AC/DC Power Adapter

- **Power Input:** Universal AC 85-264V, 50/60Hz, AC power cord with power jack.
- **Power Output:** +12 V, 3.0 A SMPS DC-power Adapter
- **Cord DC Jack & length:** Core is 12 V and outer cylinder is GND. Length is 18.5 cm
- **AC Cord length: 1.8m**
- **Certification: PSE, UL, cUL, FCC, CE, TUV-GS**

Warranty Information

1 (One) Year Warranty

Dtrovision warrants this fiber optical DVI extension cable to be free from defects in workmanship and materials, under normal use and service, for a period of one (1) year from the date of purchase from Dtrovision or its authorized resellers.

If a product does not work as warranted during the applicable warranty period, Dtrovision shall, at its option and expense, repair the defective product or part, deliver to customer an equivalent product or part to replace the defective item, or refund to customer the purchase price paid for the defective product.

All products that are replaced will become the property of Dtrovision.

Replacement products may be new or reconditioned.

Any replaced or repaired product or part has a ninety (90) day warranty or the reminder of the initial warranty period, whichever is longer.

Dtrovision shall not be responsible for any software, firmware, information, or memory data of customer contained in, stored on, or integrated with any products returned to Dtrovision for repair under warranty or not.

Warranty Limitation and Exclusion

Dtrovision shall have no further obligation under the foregoing limited warranty if the product has been damaged due to abuse, misuse, neglect, accident, unusual physical or electrical stress, unauthorized modifications, tampering, alterations, or service other than by Dtrovision or its authorized agents, causes other than from ordinary use or failure to properly use the Product in the application for which said Product is intended.

FCC/CE Statement

This device complies with part 15 of FCC Rules and EN 55022/55024/61000-3 for CE certification. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must not accept any interference received, including interference that may cause undesired operation. This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 and 2 of FCC Rules and EN 55022/55024/61000-3 for CE certification. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and. if not installed and used in accordance with the instruction guide, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult a service representative for help.

Properly shielded and grounded cables and connectors must be used in order to comply with FCC/CE emission limits. Changes or modifications not expressly approved by the party responsible for compliance could void the user s authority to operate the equipment.

UL Statement

This device has completed a UL Commercial Inspection and Testing Services for the multimode DVI cable complied with VW-1 under UL 758. it is validated by the UL file number SV2038 and project number 04CA05353.